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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,086	08/02/2001	Michael L. Shannon	062891.0540	8733

7590 12/14/2004

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EXAMINER	
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ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/922,086	SHANNON ET AL.	
	Examiner	Art Unit	
	Victor Lesniewski	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/2/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This application has been examined.

2. Claims 1-23 are now pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 16 recites the limitation "the fourth segment" in line 3. There is insufficient antecedent basis for this limitation in the claim. Nowhere in the claims from which claim 16 depends is there mention of a fourth segment, making the scope of claim 16 unclear. For the purpose of applying prior art it will be assumed that claim 16 recites "...to set up the third segment."

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 4, 5, 7, 10-12, 14, 15, 17, 18, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Denman et al. (U.S. Patent Number 6,490,451), hereinafter referred to as Denman.

8. Some claims will be discussed together. Those claims which are essentially the same except that they set forth the claimed invention as a method are rejected under the same rationale applied to the described claim.

9. Denman has disclosed:

- <Claims 1 and 14>

  A system for performing a hand-off between two internet protocol (IP) core networks in the wireless domain, comprising: a source mobility control function (MCF) (column 7, lines 4-27) within a source IP core network (figure 2, item 240), the source IP core network coupled to a source access network providing service to a mobile unit (figure 2, item 202); the source MCF coupled to a source bearer path gateway (BPGW) (column 6, line 55 through column 7, line 3), the source BPGW being within the source IP core network and operable to communicate bearer traffic associated with the mobile unit between the source access network and a public switched telephone network (PSTN) gateway within the source IP core network (column 6, lines 36-47), the PSTN gateway operable to communicate the bearer traffic between the source BPGW and a PSTN coupled to the source IP core network (figure 2, item 210); the source MCF functionally separate from a call agent (CA) within the source IP core network (figure 2, item 214), the CA coupled to the source BPGW and operable to set up a first segment of a bearer

path for the bearer traffic between the source BPGW and the PSTN gateway (column 7, lines 29-57 and column 24, lines 46-54); the source MCF operable to set up a second segment of the bearer path for the bearer traffic between the source access network and the source BPGW (column 24, lines 54-65); the source MCF further operable to take down the second segment and set up third and fourth segments of the bearer path for the bearer traffic in response to the mobile unit entering a service area of a target access network coupled to a target IP core network, the third segment being between the source BPGW and a target BPGW within the target IP core network, the fourth segment being between the target access network and the target BPGW, the target BPGW operable to communicate the bearer traffic between the target access network and the source BPGW, resulting in a hand-off between the source IP core network and the target IP core network in the wireless domain (column 24, line 66 through column 25, line 43).

- <Claims 2 and 15>

  The system of Claim 1, wherein the source MCF is further operable to request a target MCF coupled to the target BPGW to set up a fourth segment of the bearer path for the bearer traffic between the target access network and the target BPGW (column 25, lines 27-34).

- <Claims 4 and 17>

  The system of Claim 1, wherein the source MCF is further operable to take down the third segment and set up a fourth segment of the bearer path for the bearer traffic in response to the mobile unit entering a service area of another target access network coupled to another target IP core network, the fourth segment being between the source

BPGW and another target BPGW within the other target IP core network, the other target BPGW operable to communicate the bearer traffic between the other target access network and the other target BPGW, resulting in a hand-off between the target IP core network and the other target IP core network in the wireless domain (column 27, lines 12-62).

- <Claims 5 and 18>

  The system of Claim 4, wherein the source MCF is further operable to request a target MCF coupled to the other target BPGW within the other target IP core network to set up a fifth segment of the bearer path for the bearer traffic between the other target access network and the other target BPGW (column 27, lines 12-17).

- <Claims 7 and 20>

  The system of Claim 1, wherein the source IP core network supports a plurality of access networks (figure 2).

- <Claim 10>

  The system of Claim 1, wherein the source MCF communicates with the source BPGW using media gateway control protocol (MGCP) to set up or take down a segment of a bearer path (column 25, lines 12-26).

- <Claims 11 and 22>

  The system of Claim 1, wherein the bearer traffic contains voice data (column 25, lines 23-26).

- <Claim 12>

  A system for performing a hand-off between two internet protocol (IP) core networks in the wireless domain, comprising: a target mobility control function (MCF) within a target IP core network, the target IP core network coupled to a target access network (column 25, lines 27-34); the target MCF operable to receive a request from a source MCF within a source IP core network to set up a segment of a bearer path for bearer traffic associated with a mobile unit within a service area of the target access network, the bearer path being between the target access network and a target bearer path gateway (BPGW) coupled to the target MCF within the target IP core network and operable to communicate the bearer traffic between the target access network and a source BPGW (column 24, line 66 through column 25, line 43), the source BPGW being within the source IP core network (column 6, line 55 through column 7, line 3) and operable to communicate the bearer traffic between the target BPGW and a source public switched telephone network (PSTN) gateway within the source IP core network (column 6, lines 36-47) operable to communicate the bearer traffic between the source BPGW and a PSTN coupled to the source IP core network (figure 2, item 210); the target MCF further operable to set up the segment in response to the request (column 24, lines 54-65).

Since all the limitations of the invention as set forth in claims 1, 2, 4, 5, 7, 10-12, 14, 15, 17, 18, 20, and 22 were disclosed by Denman, claims 1, 2, 4, 5, 7, 10-12, 14, 15, 17, 18, 20, and 22 are rejected.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 3, 6, 9, 13, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denman, as applied above, in view of the applicant's admitted prior art, namely RFC 2543: "SIP: Session Initiation Protocol", hereinafter referred to as Admitted.

12. Denman disclosed a system for providing packet-switched telephony in a radio access network providing functionality equivalent to a network of mobile switching centers and visitor location registers. In an analogous art, Admitted disclosed the functionality of the session initiation protocol that allows the creation and modification of sessions or calls in Internet telephony.

13. Although Denman did not explicitly state the use of SIP in his system, Admitted clearly shows how SIP can be utilized in a system such as Denman's. See, inter alia, Admitted pgs. 6-7, Section 1.1, Overview of SIP Functionality. Since the inventions encompass the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Denman by adding the ability to utilize SIP as provided by Admitted. Here, the combination satisfies the need in Denman's system for support for personal/terminal mobility. See Admitted, Section 1.1, paragraph 3.

14. Thereby, the combination of Denman and Admitted discloses:

- <Claims 3 and 16>

  The system of Claim 2, wherein the source MCF communicates a session initiation protocol (SIP) "invite" message to the target MCF to request the target MCF to set up the fourth segment (Admitted).

- <Claims 6 and 19>

  The system of Claim 5, wherein the source MCF communicates a session initiation protocol (SIP) "invite" message to the target MCF to request the target MCF to establish the fifth segment (Admitted).

- <Claim 9>

  The system of Claim 1, wherein the source MCF communicates signaling traffic with the CA using session initiation protocol (SIP) (Admitted).

- <Claim 13>

  The system of Claim 12, wherein the request is a session initiation protocol (SIP) "invite" message (Admitted).

Since the combination of Denman and Admitted discloses all of the above limitations, claims 3, 6, 9, 13, 16, and 19 are rejected.

15. Claims 8 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denman, as applied above, in view of Almgren et al. (U.S. Patent Number 6,668,175), hereinafter referred to as Almgren.

16. Denman disclosed a system for providing packet-switched telephony in a radio access network providing functionality equivalent to a network of mobile switching centers and visitor

location registers. In an analogous art, Almgren disclosed an apparatus for providing radio access bearer services in a communications network having a core network.

17. Although Denman did not explicitly state that his access network was a third generation network, the development of 3G networks is well known in the art as evidenced by Almgren who discusses the progression of IMT-2000 and UMTS systems. Furthermore, features of Denman's system clearly relate to third generation networks, although he does not explicitly name 3G. Since the inventions encompass the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Denman by adding the functionality of third generation networks as provided by Almgren. Here, the combination satisfies the need to extend the services provided by second generation systems as is well known in the art. See Almgren, column 3, lines 3-17.

18. Thereby, the combination of Denman and Almgren discloses:

- <Claims 8 and 21>

  The system of Claim 1, wherein the source access network is a third-generation (3G) radio access network (Almgren, column 3, lines 3-17).

Since the combination of Denman and Almgren discloses all of the above limitations, claims 8 and 21 are rejected.

19. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Denman and Admitted, as applied above, in view of Almgren, as applied above.

20. Although the combination of Denman and Admitted did not explicitly state a third generation network, the development of 3G networks is well known in the art as evidenced by

Almgren. See previous discussion, paragraphs 16 and 17. Since the inventions encompass the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Denman and Admitted by adding the functionality of third generation networks as provided by Almgren. Again, the combination satisfies the need to extend the services provided by second generation systems as is well known in the art. See Almgren, column 3, lines 3-17.

21. Thereby, the combination of Denman, Admitted, and Almgren discloses:

- <Claim 23>

  A system for performing a hand-off between two internet protocol (IP) core networks in the wireless domain, comprising: a source mobility control function (MCF) (Denman, column 7, lines 4-27) within a universal mobile telecommunications system (UMTS) source IP core network (Denman, figure 2, item 240), the source IP core network coupled to a source third-generation (3G) (Almgren, column 3, lines 3-17) radio access network (RAN) providing service to a mobile unit (Denman, figure 2, item 202); the source MCF coupled to a source bearer path gateway (BPGW) (Denman, column 6, line 55 through column 7, line 3), the source BPGW being within the source IP core network and operable to communicate bearer traffic associated with the mobile unit between the source access network and a public switched telephone network (PSTN) gateway within the source IP core network (Denman, column 6, lines 36-47), the PSTN gateway operable to communicate the bearer traffic between the source BPGW and a PSTN coupled to the source IP core network (Denman, figure 2, item 210); the source MCF functionally separate from a call agent (CA) within the source IP core network (Denman, figure 2,

item 214), the CA coupled to the source BPGW and operable to set up a first segment of a bearer path for the bearer traffic between the source BPGW and the PSTN gateway (Denman, column 7, lines 29-57 and column 24, lines 46-54), signaling traffic associated with the mobile unit being communicated between the source MCF and the CA using sessions initiation protocol (SIP) (Admitted); the source MCF operable to set up a second segment of the bearer path for the bearer traffic between the source RAN and the source BPGW using media gateway control protocol (MGCP); the source MCF further operable to take down the second segment using MGCP and set up third and fourth segments of the bearer path for the bearer traffic in response to the mobile unit entering a service area of a target 3G RAN coupled to a target UMTS IP core network, the third segment being between the source BPGW and a target BPGW within the target IP core network, the fourth segment being between the target 3G RAN and the target BPGW, the target BPGW operable to communicate the bearer traffic between the target access network and the source BPGW, resulting in a hand-off between the source IP core network and the target IP core network in the wireless domain (Denman, column 24, line 54 through column 25, line 43).

Since the combination of Denman, Admitted, and Almgren discloses all of the above limitations, claim 23 is rejected.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

- Lin et al. (U.S. Patent Number 6,269,402) disclosed a method for providing seamless communication across bearers in a wireless communications system.
- Rom (U.S. Patent Number 6,360,264) disclosed a method for maintaining connectivity in a wireless LAN.
- Boudreaux (U.S. Patent Number 6,466,556) disclosed a method of controlling handover of real-time packet data flow within a wireless telecommunications system packet domain.
- Chiou et al. (U.S. Patent Number 6,473,413) disclosed a method for allowing a mobile station to roam among various APs in different IP subnets.
- Maenpaa et al. (U.S. Patent Number 6,590,880) disclosed a method for facilitating handover of communications between a source radio gateway and a target radio gateway of a packet radio communications system.
- Bhagwat et al. (U.S. Patent Number 6,651,105) disclosed a method allowing a mobile device to roam securely and seamlessly from one access point to another access point without disrupting an active PPP connection.
- Agrawal et al. (U.S. Patent Number 6,775,253) disclosed a system containing active packets that are used by a mobile terminal in a wireless network for call set-up and mobility management.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Lesniewski whose telephone number is 571-272-3987. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VL

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